

CLAIMS

1 1. A method for overplating metallic components in the manufacturing of thin film devices,
2 comprising the steps of:

3 depositing a resist layer;

4 forming an opening in said resist layer for the plating of a component therein;

5 overplating said component into said opening, such that a mushroomed head is formed

6 with overhang portions disposed above portions of said resist layer;

7 heating said resist layer to form a hard baked resist; and

8 removing portions of said hard baked resist using a dry etch process, such that portions of

9 said hard baked resist remain under said overhang portions of said mushroomed head.

1 2. A method as described in claim 1 wherein said dry etch process is a reactive etch process.

1 3. A method as described in claim 2 wherein said reactive etch process is selected from the
2 group consisting of RIE, RIBE and CAIBE.

1 4. A method as described in claim 2 wherein said reactive etch process utilizes oxygen
2 reactive species.

1 5. A method as described in claim 1 wherein said thin film device is a thin film magnetic
2 head.

1 6. A method as described in claim 5 wherein said metallic component is a yoke portion of a
2 magnetic pole.

1 7. A method as described in claim 6 wherein said heating step includes a magnetic pole
2 annealing step.

1 8. A method as described in claim 1 wherein said component is an electrical interconnecting
2 stud.

1 9. A method as described in claim 1 wherein an encapsulation step is performed following
2 said dry etch process step.

1 10. A method for overplating metallic components in the manufacturing of thin film devices,
2 comprising the steps of:

3 depositing a resist layer;

4 forming an opening in said resist layer for the plating of a component therein;

5 overplating said component into said opening, such that a mushroomed head is formed
6 with overhang portions disposed above portions of said resist layer;

7 removing portions of said resist layer using a dry etch process, such that portions of said
8 resist layer remain under said overhang portions of said mushroomed head; and

9 heating said resist layer to form a hard baked resist.

1 11. A method as described in claim 10 wherein said dry etch process is a reactive etch
2 process.

1 12. A method as described in claim 10 wherein said reactive etch process is selected from the
2 group consisting of RIE, RIBE and CAIBE.

1 13. A method as described in claim 10 wherein said reactive etch process utilizes oxygen
2 reactive species.

1 14. A method as described in claim 10 wherein said thin film device is a thin film magnetic
2 head.

1 15. A method as described in claim 14 wherein said metallic component is a yoke portion of
2 a magnetic pole.

1 16. A method as described in claim 15 wherein said heating step includes a magnetic pole
2 annealing step.

1 17. A method as described in claim 10 wherein said component is an electrical
2 interconnecting stud.

1 18. A method as described in claim 10 wherein an encapsulation step is performed following
2 said dry etch process step.

1 19. A thin film device comprising:
2 at least one thin film layer;

3 at least one electrochemically plated component; said component being formed with an
4 overplated head that includes overhang portions;
5 hard baked photoresist being disposed beneath said overhang portions to fill an area
6 beneath said overhang portions.

1 20. A thin film device as described in claim 19 wherein said metallic component is formed
2 by electrochemically plating into an opening formed in a photoresist layer using
3 photolithographic process techniques.

1 21. A thin film device as described in claim 19 wherein said device is a thin film magnetic
2 head.

1 22. A thin film device as described in claim 21 wherein said component is a yoke portion of a
2 magnetic pole.

1 23. A thin film device as described in claim 22 wherein said yoke is formed with straight
2 sided pole tip portions and overplated yoke portions.

1 24. A thin film device as described in claim 19 wherein said component is an electrical
2 interconnecting stud.

1 25. A hard disk drive, comprising:
2 at least one hard disk being adapted for rotary motion upon a drive device;

3 at least one slider device having a slider body portion being adapted to fly over said hard
4 disk; a magnetic head being formed on slider body for writing data on said hard disk; said
5 magnetic head including:

6 at least one thin film layer;
7 at least one electrochemically plated component; said component being formed with an
8 overplated head that includes overhang portions;
9 hard baked photoresist being disposed beneath said overhang portions to fill an area
10 beneath said overhang portions.

1 26. A hard disk drive as described in claim 25 wherein said metallic component is formed by
2 electrochemically plating into an opening formed in a photoresist layer using photolithographic
3 process techniques.

1 27. A hard disk drive as described in claim 25 wherein said device is a thin film magnetic
2 head.

1 28. A hard disk drive as described in claim 27 wherein said component is a yoke portion of a
2 magnetic pole.

1 29. A hard disk drive as described in claim 28 wherein said yoke is formed with straight
2 sided pole tip portions and overplated yoke portions.

1 30. A hard disk drive as described in claim 25 wherein said component is an electrical
2 interconnecting stud.